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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,120

04/08/2004

Yoshikazu Miyajima

03560.003451

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5514 7590 11/14/2007  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

RUTLEDGE, DELLA J

ART UNIT

PAPER NUMBER

2851

MAIL DATE

DELIVERY MODE

11/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PH

<b>Office Action Summary</b>	<b>Application No.</b> 10/820,120	<b>Applicant(s)</b> MIYAJIMA ET AL.	
	<b>Examiner</b> D. Rutledge	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9,10,16,17,19 and 21-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22,23,25 and 32-38 is/are allowed.
- 6) ☒ Claim(s) 9,10,16,19,24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) 17,21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

**RCE**

1. This office action is in response to the applicant's filing of a Request for Continued Examination on 06 August 2007 and the Preliminary Amendment filed therewith.

***Response to Arguments***

2. Applicant's arguments concerning the Hara reference (US Pub. No. 2002/0015139) have been considered and were persuasive, the rejection over the Hara reference has been withdrawn.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 9, 10, 16, 19, 26 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Art of Fig. 8 of the present application in view of Sakai (US Pub. No. 2003/0056815).

Claims 16, 26, 30: The prior art (Fig. 8 of the present application) discloses a stage apparatus 5 comprising: a base plate 5D; a moving unit, the slider 5C; a linear motor having a coil unit 5F; a gas bearing unit 5G having an air supply 5H. The prior art apparatus appears to be similar to the applicant's apparatus and therefore, the examiner takes the position that the prior art apparatus of figs. 5 - 9 have a first and

second moving means as claimed and that the second moving means has a range smaller than the first moving means.

The secondary reference, Sakai, in fig. 5, teaches that the heat of the coils 32 of a motor and the heat from air bearings 33 may be controlled by having a body 31 which has the gas supply 312 for the air bearings adjacent the duct for the coolant 311 for the coils. With this arrangement, the coolant for coiling the coils also controls the temperature of the gas supply since the coolant affects the temperature of the body housing the ducts 311, 312 for the coolant and the gas supply.

Claims 9, 27: the cooling duct 311 is located near the outer periphery of the moving part.; see Fig. 5 of the Sakai reference

Claims 10, 28: the prior of Figs. 5 and 6 of the present application shows an interferometer device, the scope 6A, the interferometer mirrors 9, 10

Claims 19, 29: the direction of flow of the coolant and the gas are not critical and therefore, one may choose to having the fluids flow in opposite directions

5. Claims 24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Art of Fig. 8 in view of Sakai (US Pub. No. 2003/0056815) as applied to claims 16, 19 above, and further in view of Hara US Pub. No. 2002/0015139).

The linear motor of the prior art in Fig. 8 is not disclosed as being a surface, Hara has a stage apparatus having a linear motor having temperature control for the coils and a gas bearing and teaches that a surface motor may be used for moving the stage. one of ordinary skill in the art would thus know that a surface motor is suitable for the task of

moving a stage in a lithographic environment and therefore a surface motor may used in the combination prior art of Fig. 8 and the teaching of the Sakai reference.

***Allowable Subject Matter***

6. Claims 17, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 22, 23, 25, 32 - 38 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: The combination of the Prior Art of Figs. 5 – 9 of the present application and the Sakai reference would not necessarily result in the coolant pipe and the supply pipe being positioned as claimed.

***Response Data***


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
D. Rutledge  
Primary Examiner  
Art Unit 2851

dr  
10/29/2007